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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,392	02/06/2004	Sherif Yacoub	200310469-1	6342
22879 7590 04/17/2009 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER				
SAINT CYR, LEONARD				
ART UNIT		PAPER NUMBER		
2626				
NOTIFICATION DATE		DELIVERY MODE		
04/17/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM

ipa.mail@hp.com

jessica.l.fusek@hp.com

### Office Action Summary

**Application No.**

10/773,392

**Applicant(s)**

YACOB ET AL.

**Examiner**

LEONARD SAINT CYR

**Art Unit**

2626

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 9-13, 15-18, 21, and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-13, 15-18, 21, and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/06/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 01/28/09 have been fully considered but they are not persuasive.

Applicant argues that Watanabe does not teach or suggest the first speech recognition engine permits a plurality of ports to be used on behalf of a plurality of users and the system further comprises a port monitor coupled to the first speech recognition engine and to the evaluation logic, wherein the port monitor determines a number of currently available ports and, based on the number of currently available ports exceeding a threshold selecting and using the first speech recognition engine (Amendment, pages 7 – 9).

The examiner disagrees, since Watanabe discloses **“detector can also be used to selectively switch an active one of a plurality of user channels to one of a smaller number of voice recognizers.** A change-over switch 14 connects m voice pattern outputs to n separate recognition input terminals 121, 122, . . . , 12j, . . . , 12n of a recognition means 15 which recognizes the voices received on its n separate recognition input terminals as the outputs from the change-over switch 14. **The recognition means 15 can recognize n separate voice simultaneously”** (see Abstract, lines 7 – 10; col.4, lines 5 – 12; col.6, lines 4 – 6). Recognizing n separate voice simultaneously implies selecting and using the first speech recognition engine

based on the number of currently available ports exceeding a threshold, since more than one voice recognizers are used by the system.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1 – 4, 6, 9 – 13, 15 – 18, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al., (US Patent 7,228,275) in view of Watanabe et al., (US Patent 4, 641,342).

As per claims 1, and 9, 15, and 21, Endo et al., teach a system, comprising:  
a first speech recognition engine; a second speech recognition engine (Abstract, lines 1 – 3); and

evaluation logic ("decision module") coupled to the first and second speech recognition engines, the evaluation logic evaluates the first and second speech recognition engines based on evaluation signals from a user and, based in part on the evaluation, selects one of said speech recognition engines to process additional speech signals from the user (Abstract, col.2, lines 28 – 48).

However, Endo et al., do not specifically teach the first speech recognition engine permits a plurality of ports to be used on behalf of a plurality of users and the system further comprises a port monitor coupled to the first speech recognition engine and to the evaluation logic, wherein the port monitor determines a number of currently

available ports and, based on the number of currently available ports exceeding a threshold selecting and using the first speech recognition engine.

Watanabe et al., teach detector can also be used to selectively switch an active one of a plurality of user channels to one of a smaller number of voice recognizers. A change-over switch 14 connects m voice pattern outputs to n separate recognition input terminals 121, 122, . . . , 12j, . . . , 12n of a recognition means 15 which recognizes the voices received on its n separate recognition input terminals as the outputs from the change-over switch 14. The recognition means 15 can recognize n separate voice simultaneously (Abstract, lines 7 – 10; col.4, lines 5 – 12; col.6, lines 4 – 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize n separate voices simultaneously using a single recognizer as taught by Watanabe et al in Endo et al., because that would help monitor when to use different speech recognizers at the same time.

As per claims 2, 10, Endo et al., in view of Watanabe et al., further disclose a switch coupled to the first and second speech recognition engines and the evaluation logic, wherein, based on the evaluation, the evaluation logic causes the switch to release a connection to the speech recognition engine that was not selected (Endo et al; "selects the speech text with the highest raw confidence score...for controlling the back-end application"; col.6, lines 20 – 24).

As per claim 3, Endo et al., in view of Watanabe et al., further disclose a communications mechanism and, based on the evaluation, the evaluation logic selects the communications mechanism that is not the first or second speech recognition engines (Endo et al; "selects the speech text with the highest raw confidence score...for controlling the back-end application"; col.6, lines 14 – 24).

As per claim 4, Endo et al., in view of Watanabe et al., further disclose if the number of currently available ports does not exceed the threshold, comparing outputs from the first and second speech recognition engines, and selecting the second speech recognition engine if the outputs are identical (Endo et al; "confidence scores are the same"; col.8, lines 34 – 37)

As per claim 6, Endo et al., in view of Watanabe et al., further disclose if the number of currently available ports does not exceed the threshold, the evaluation logic receives a first confidence score from the first speech recognition engine and a second confidence score from the second speech recognition engine and selects the second speech recognition engine if the confidence score of the second speech recognition engine is equal to or higher than a threshold (Endo et al; col.2, lines 45 – 48; col.8, lines 42 - 48).

As per claims 11, and 16, Endo et al., in view of Watanabe et al., further disclose means for evaluating a parameter comprises means for assessing the relative accuracy

of the first and second means for recognizing speech ("The first speech recognizer recognizes ... **first confidence score indicating the level of accuracy of the first speech text**. Likewise, the second speech recognizer also recognizes...**a second confidence score indicating the level of accuracy of the second speech text**"; Endo et al., col.2, lines 38 – 45).

As per claims 12, and 17, Endo et al., in view of Watanabe et al., further disclose the means for evaluating a parameter comprises means for assessing the relative performance of the first and second means for recognizing speech ("**the decision module selects either** the first speech text or the second speech text as the output speech text depending **upon which of the first and second confidence scores is higher**"; Endo et al., col.2, lines 45 – 48; col.11, lines 4 - 6).

As per claims 13, and 18, Endo et al., in view of Watanabe et al., further disclose the first and second means for recognizing speech comprise a means for determining a confidence score associated with the voice input ("The first speech recognizer recognizes ... **first confidence score indicating the level of accuracy of the first speech text**. Likewise, the second speech recognizer also recognizes...**a second confidence score indicating the level of accuracy of the second speech text**"; Endo et al., col.2, lines 38 – 45).

As per claim 22, Endo et al., in view of Watanabe et al., further disclose if the number of available ports is below the threshold, by performing an action selected from the group consisting of comparing a relative accuracy of the first and second speech recognition engines, comparing the relative performance of the first and second recognition engines, and comparing a confidence score generated by the first and second speech recognition engines and a combination thereof ("The first speech recognizer recognizes ... **first confidence score indicating the level of accuracy of the first speech text.** Likewise, the second speech recognizer also recognizes...**a second confidence score indicating the level of accuracy of the second speech text. the decision module selects either** the first speech text or the second speech text as the output speech text depending **upon which of the first and second confidence scores is higher**"; Endo et al., col.2, lines 38 – 48).

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al., (US Patent 7,228,275) in view of Watanabe et al., (US Patent 4, 641,342), and further in view of Kemble et al., (US Patent 7,072,837).

As per claim 5, Endo et al., in view of Watanabe et al., do not specifically teach that the evaluation logic determines a response time for each of the first and second speech recognition engines and selects the second speech recognition engine if the response time of the second speech recognition engine is equal to or shorter than the response time of the first speech recognition engine.



Kemble et al., teach that the processing tasks can be allowed only a predetermined and limited amount of time for completion. Specifically, the speech recognition system can restrict the selection of recognition results to only those from possible recognition results provided by the processing tasks which complete execution within the predetermined time limit (col.7, lines 51 – 57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to consider response time in speech recognition systems as taught by Kemble et al., in Endo et al., in view of Watanabe et al., because the response time is more critical than the accuracy of the speech recognition (col.7, lines 50, and 51).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS  
04/02/09

/Richemond Dorvil/  
Supervisory Patent Examiner, Art Unit 2626